VECTOR ESTIMATION SYSTEM, METHOD AND ASSOCIATED ENCODER

ABSTRACT OF THE DISCLOSURE

5   An encoder and associated vector estimation method and system (1) for processing a sequence of input vectors (y_0 to y_T) each comprising a plurality of elements. The vector estimation system (1) has a digital filter (2) with a filter vector input (3) for receiving said sequence of input vectors (y_0 to y_T) and a

10   predictor gain input (4) for controlling characteristics of the filter (2). The filter (2) is a Kalman filter and has both a current slowly evolving filter estimate output (6) and a previous slowly evolving filter estimate output (20). The current slowly evolving filter estimate output (6) provides vectors of current

15   filtered estimate element values of a slowly evolving component of the sequence of input vectors (y_0 to y_T) and the previous slowly evolving filter estimate output (20) provides vectors of previous filtered estimate element values of the slowly evolving component of said sequence of input vectors (y_0 to y_T). There is also a

20   parameter estimator (10) having an estimator vector input (19) for receiving the sequence of input vectors (y_0 to y_T) and a previous slowly evolving filter estimate input (13) coupled to the previous slowly evolving filter estimate output (20). The parameter estimator further includes a predictor gain output

25   coupled (11) to the predictor gain input (4). In operation, when the vector estimation system (1) receives a current input vector that is one of the sequence of said input vectors (y_0 to y_T), the parameter estimator (10) provides a vector of current predictor gain element values at the predictor gain output (11) thereby

30   modifying the current filtered estimate value. The current predictor gain element values are dependent upon both the previous filtered estimate vector and the current input vector.